

REMARKS

Claim 11 calls for a pore in an insulator. The pore includes an electrode and a phase change material that fills less of the pore than the electrode.

As mentioned in the past, it is certainly unclear how the material set forth in Moore could possibly be a phase change material since it apparently merely forms dendrites under certain conditions. It is not clear that this indicates any change of phase.

However, more importantly, it appears that the language in column 3, lines 19-21, is being misinterpreted. This language is that the metal material could be recessed in via 22 by 10 to 90 percent. The Examiner is apparently interpreting this to mean that the metal material 31 could actually be bigger than that which is shown in Figure 5 and, in fact, could be larger or thicker than the material 51.

It is respectfully submitted that this is an improper interpretation of the reference. At column 3, lines 12 and 13 it is stated that the material 31 thickness "should be around 10 to 20 percent of the total depth of the via 22." Then, in the next paragraph, it is explained that if the via 22 is approximately 1000 Angstroms deep then "a minimum of 100-200 Angstroms of metal material is required." In other words, as is explained in the previous paragraph, the material 31 should be around 10 to 20 percent of the total depth of the via. This leaves the rest of the via for the alleged phase change material, making that material thicker than the metal and, thereby, outside the scope of the claims.

However, the same paragraph goes on to state that if the required minimum amount of material is "not maintained" a glass material partially doped with metal could be used as a refill material for the glass material 41. In other words, in this case, the metal material 31 is even less than 10 to 20 percent of the total depth of the via. This is because it is explained that in this case the metal material 31 is less than the required minimum. In such case, the metal material could be recessed in the via by 10 to 90 percent.


Clearly, what is being referred to here is how much less the metal material can be than the 10 to 20 percent of the via depth that was already discussed. In other words, if normally the metal should be 10 to 20 percent minimum, using glass doped with metal, then the material 31 can be reduced in thickness (i.e., "recessed") 10 to 90 percent. This would make it as little as 1 percent of the total via depth (90 percent of 10 percent).

Since the passage is talking about the situation where the metal thickness is reduced and normally the metal thickness is 10 to 20 percent of the via depth, the relied upon passage merely teaches away by making the metal even thinner and making the alleged phase change material even thicker.

Therefore, reconsideration is respectfully requested.

Respectfully submitted,

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